

GAO

Report to the Honorable
Tom Harkin, U.S. Senate

November 1998

ARMY MEDIUM TRUCKS

Acquisition Plans Need Safeguards



DTIC QUALITY INSPECTED 3

19981223 084

Reproduced From
Best Available Copy



United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-277969

November 19, 1998

The Honorable Tom Harkin
United States Senate

Dear Senator Harkin:

As you requested, we reviewed the Army's Family of Medium Tactical Vehicles (FMTV) program. This is the first of two reports to respond to your request, and it addresses the program's future acquisition plans. It includes recommendations to the Secretary of Defense intended to improve program management in the follow-on production contract and to require the Army to reevaluate its plan for developing a second source to produce FMTV trucks. The second report will address the contractor's delay in delivering acceptable trucks, the Army's decision to restructure the current production contract, and the Army's handling of the trucks' corrosion problem.

We plan no further distribution of this report until 30 days from its issue date unless you publicly announce its contents earlier. At that time, we will send copies of this report to the Chairmen and Ranking Minority Members of the Senate Committees on Governmental Affairs, Armed Services, and Appropriations and of the House Committees on Government Reform and Oversight, National Security, and Appropriations; the Secretaries of Defense and the Army; and the Director of the Office of Management and Budget. We will also make copies available to others on request.

Please contact me on (202) 512-4841 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix II.

Sincerely yours,

A handwritten signature in cursive script that reads "Louis J. Rodrigues".

Louis J. Rodrigues
Director, Defense Acquisitions Issues

Executive Summary

Purpose

The Army is modernizing its fleet of medium tactical vehicles through the Family of Medium Tactical Vehicles (FMTV) program, which is one of the Army's largest acquisition programs at a projected cost of \$15.7 billion. From fiscal year 1991 through fiscal year 2022—a 32-year period—the Army plans to purchase 85,488 FMTV trucks to replace its aging fleet of medium trucks. The FMTV trucks are a family of 2.5- and 5-ton trucks based on a common truck cab and chassis.

In response to a request from Senator Tom Harkin, GAO evaluated the Army's future acquisition plans for the FMTV program.

Background

The program is nearing the end of its first production contract. The contract was awarded on October 11, 1991, to Stewart & Stevenson Services, Inc., Houston, Texas. It was a \$1.2-billion, 5-year fixed-price contract to produce the first 10,843 FMTV trucks. Because of funding problems, the fifth year of the contract was extended over 3 years. The Army expects the contractor to complete production under the contract in December 1998.

The Army plans to continue FMTV production with the current contractor. On October 14, 1998, it awarded Stewart & Stevenson a follow-on production contract—a \$1.4-billion, 4-year contract for 6,430 trucks and trailers with an option year for an additional 2,920 trucks and trailers. It plans to award the contractor a second follow-on contract for \$100 million for an additional 276 trucks. Both contracts will be for new FMTV truck models. While the current contractor is producing under the follow-on contracts, the Army plans to develop a second source to produce FMTV trucks.

Results in Brief

The Army's plan for implementing its follow-on production contracts needs to ensure that the government receives trucks that meet FMTV program quality standards. The current contract allowed the contractor to produce trucks during testing even though the trucks were unable to pass testing and demonstrate that they met FMTV performance and reliability, availability, and maintainability requirements. These trucks required modifications to achieve satisfactory performance that caused program delays. In addition, the Army relaxed its final acceptance inspection method from a 100-percent inspection to a sampling inspection method without validating that the contractor's production processes were effective in ensuring that the trucks met quality standards. Recent

government inspection data and quality deficiency reports on trucks in the field show that the contractor is not consistently producing trucks within the quality standards set for FMTV trucks. However, because of incomplete data, the Army does not know overall whether FMTV trucks are performing adequately in the field. Under the follow-on contracts, full-rate production of new model trucks will be allowed to start before the trucks pass testing. Also, the Army plans to continue to accept the new models under its sampling inspection method. This approach, which was followed under the current contract, caused program delays and uncertainty about the quality of the fielded trucks. The Army has not instituted safeguards to ensure that the follow-on contracts do not result in problems similar to those experienced under the current contract.

The Army plans to compete future procurement of the FMTV trucks with the expectation that program costs can be reduced. Therefore, it has decided to develop a second source to produce FMTV trucks. The current contractor and second source will share the annual production. The Army has not performed an analysis to determine the costs and benefits of this plan or compared it to other alternatives, including (1) dividing the program into 5-year production increments and competing each increment among all qualified contractors, (2) delaying the development of the second source until funds are available to support both the current contractor and the second source without a fielding break, or (3) continuing with the current contractor for the rest of the program. GAO's preliminary analysis of the production quantities that the two contractors could expect to share from the competition indicates that the Army's plan may not result in program cost savings.

Principal Findings

FMTV Program Needs Safeguards to Preclude Past Problems

Under the current contract, the contractor experienced problems that adversely impacted the FMTV program. It took longer than expected to produce FMTV trucks that could pass testing and demonstrate that they met FMTV technical and operational requirements. While this situation persisted, the contract allowed the contractor to continue producing trucks even though the trucks did not meet requirements. The contractor had to perform varying levels of work to make these trucks conform to the specifications of those that had passed testing. This additional work delayed the production of new trucks. During the 9 months it took to make

the changes, the contractor had to stop new truck production for 5 months and was able to produce only 175 new trucks in the remaining 4 months. The contract required the contractor to pay for the changes needed to make the trucks meet FMTV requirements.

Overall, the contractor has been unable to consistently produce trucks that met FMTV program quality standards necessary to pass the government's final acceptance inspection. Nevertheless, the Army relaxed its final acceptance inspection method from 100-percent inspections to a sample inspection method without validating that the contractor's production processes were under statistical process control—a method of determining whether a contractor is consistently producing a product within the required quality standards. Under the 100-percent inspection method, one defect caused the lot to be rejected and reinspected until no defects were found. Under sampling inspections, one major defect or 15 minor defects causes the lot to be rejected, and the lot is usually inspected only two times, after which the Army accepts the lot if the contractor provides documentation to show that it has inspected the lot and corrected all defects. Recent government inspection data indicates that the contractor's processes are not consistently producing trucks within the quality standards set for FMTV trucks. For example, between July 1, 1997, and June 30, 1998, about 78 percent of the truck lots presented to the government for final acceptance inspection were rejected on first inspection.

The Army does not have complete data to show whether the FMTV trucks are performing adequately in the field. Army officials report that the trucks are doing well in the field but other data shows that major problems exist. FMTV trucks have been fielded with major deficiencies such as major fluid leaks, reversed winch controls, inoperable starters, and windows that shatter when doors are closed. Lacking more complete data, GAO could not determine the magnitude of the problem.

Under the follow-on contracts, the contractor will be producing new model trucks called A1 models. These new trucks will have to pass a new production qualification test to demonstrate that they meet FMTV performance and reliability, availability, and maintainability requirements. According to Army officials, the follow-on contracts will allow full production to start before the new model trucks pass testing. The Army also plans to continue to accept the new models under its relaxed final acceptance inspection methods. This approach is the same as the one followed during the current production contract, which caused program

delays and uncertainty over the quality of the fielded trucks. The Army has an opportunity to mitigate program difficulties by instituting safeguards to ensure that the new model trucks pass testing before production begins and that the contractor consistently produces trucks of a high enough quality to meet FMTV technical and operational requirements.

Army Has Not Determined Whether Its Second-Source Plan Will Reduce Program Costs

The Army plans to compete future procurement of the FMTV trucks with the expectation that program costs can be reduced. Therefore, it has decided to develop a second source that will compete with the current contractor for a share of future FMTV production quantities.

The Army's plan will initially increase program costs and cause a fielding break. It will increase costs because the Army will have to pay the competing contractors' costs of developing their versions of FMTV trucks and competing them. Additionally, the Army will have to pay the second-source contractor's costs for developing its production line and bringing it into full production. The Army also has reduced the number of trucks the current contractor will produce during the first 7 months of the follow-on contract. This will allow the Army to use some of its fiscal year 1999 funds to start its second-source development effort. This will increase the unit cost of the trucks and will cause at least a 3-month fielding break.

The Army does not know whether its plan will reduce costs. It did not perform an analysis to determine whether the added costs, including a fielding break, would be offset by cost savings. Also, it did not compare the costs and benefits of its plan with those of other program alternatives, including (1) dividing the program into 5-year production increments and competing each increment among all qualified contractors, (2) delaying the development of the second source until funds are available to support both the current contractor and the second source without a fielding break, or (3) continuing with the current contractor for the rest of the program.

GAO performed a preliminary analysis of the production quantities that the contractors could expect to share from a second-source competition. This analysis indicates that the current contractor will not be able to reduce its costs even if it wins the larger share of the production quantities. Also, it will be difficult for the current contractor to reduce its price to the Army because its FMTV production plant is dedicated solely to FMTV production.

and can support a monthly production level far above the largest production quantities expected under the second-source competition.

GAO was unable to estimate the effect the production split would have on the prices the second-source contractor would give the Army. There are several possible scenarios. For example, if the second-source contractor is a truck producer and if it could add FMTV production to a plant that already produces other trucks, it could share the plant's fixed costs with other contracts. This would tend to reduce the fixed costs attributed to the FMTV contracts and lower the contractor's FMTV truck price.

Recommendations

To improve management of the FMTV program under the current and follow-on contracts, GAO recommends that the Secretary of Defense direct the Secretary of the Army to fund a data collection effort to determine whether fielded FMTV trucks are performing satisfactorily and to direct government inspectors at the FMTV truck plant to return to 100-percent final acceptance inspection of FMTV trucks until the contractor demonstrates that its production processes are under statistical process control.

To provide a safeguard that could prevent the follow-on contracts from experiencing the same problems that occurred under the current contract, GAO recommends that the Secretary of Defense direct the Secretary of the Army to include a clause in the follow-on production contracts that would delay the start of production until the new FMTV model trucks demonstrate that they meet FMTV performance and reliability, availability, and maintainability requirements.

To ensure that the Army considers all its options before it starts to develop a second source for the FMTV program, GAO recommends that the Secretary of Defense direct the Secretary of the Army to delay the Army's plans for developing a second source to produce FMTV trucks until the Army completes an analysis that compares the costs and benefits of its plan with those of other alternatives and to pursue the alternative that is most beneficial to the government.

Agency Comments and GAO's Evaluation

In commenting on a draft of this report, the Department of Defense said it partially concurred with GAO's recommendations. It stated that the Army is currently using, to the maximum extent possible, data from existing databases such as the Operating and Support Management Information

System and the FMTV weekly fielding site reports and is considering sample data collection as a fleet management tool if it is determined to be cost-effective. Regarding the final acceptance inspection, the Department said that correcting quality problems along the production line is more cost-effective than rejecting lots after they have been presented for acceptance. According to the Department, the current sampling program is catching discrepancies, demonstrating that sampling is working and therefore 100-percent inspection is not warranted. Also, according to the Department, the Army (1) will not authorize production on the follow-on contracts until it is satisfied that the vehicles will successfully pass production qualification testing and (2) believes it has proper safeguards in place to preclude the problems experienced under the current contract. Finally, it said that the Army is conducting an FMTV second-source contractor cost and benefit analysis as directed by the Congress.

The FMTV weekly fielding site reports would not be useful in determining whether the fielded FMTV trucks are performing satisfactorily because the site receiving inspections on which these reports are based are performed before the trucks are issued to the units; that is, before they perform in the field. Also, as GAO reported, the Operating and Support Management Information System has not included data on FMTV trucks. While an Army official responsible for the information system said that some FMTV truck data will be included in the System when it is updated this year, he did not expect the data to be extensive.

GAO agrees that building quality into the production process is more effective than inspecting it in at the end of production. However, as GAO's report points out, the sampling program is identifying significant numbers of discrepancies at the end of the production process. This indicates that the contractor's processes are not building quality into the product. Sampling cannot be relied on until it has been established that the production processes are under statistical process control. GAO continues to believe that the production processes need to be brought under this control to ensure consistently high-quality output before reducing the 100-percent inspection prescribed by the project office.

In its comments, the Department said it has the proper safeguards to preclude the problems experienced in the current contract but did not indicate what specific factors it will consider in its decision to authorize full-rate production. The Army awarded the first follow-on contract on October 14, 1998. While GAO has not had an opportunity to review the contract, according to Army officials, the follow-on production contracts

will allow the start of full production before the new model trucks pass testing. GAO believes that the Army's interests would be better protected if the production contract contained a specific requirement that full-rate production under the follow-on contracts would not start until the FMTV trucks pass production qualification testing under the testing contract.

The Army's plan to conduct an FMTV cost and benefit analysis is a step in the right direction; however, the Army's analysis will compare the costs and benefits of only two acquisition approaches—the current FMTV second-source plan and continuing with the current contractor for the remainder of the program. Since other alternative acquisition approaches for the program exist, GAO believes that, as a minimum, the Army should explore the other alternatives. The Army should select the acquisition alternative that is the most cost beneficial to the government to continue the FMTV program.

The Department of Defense's comments are addressed in the body of the report where appropriate and are reprinted in their entirety in appendix I.

Contents

Executive Summary		2
Chapter 1		12
Introduction	FMTV Program	12
	Future Acquisition Plans	12
	Objectives, Scope, and Methodology	14
Chapter 2		16
FMTV Program Needs	Contract Allowed Production to Continue After the Trucks Failed Testing	16
Safeguards to	Army Relaxed Inspections Despite Poor Acceptance Rates	19
Preclude Past	Army Does Not Know the Overall Quality of Fielded FMTV Trucks	21
Problems	Plans for Follow-on Production Would Continue Past Policies	23
	Conclusions	24
	Recommendations	25
	Agency Comments and Our Evaluation	25
Chapter 3		27
Army Has Not	Army's Plans Call for Developing a Second Source for FMTV Trucks	27
Determined Whether	Army's Plans Will Initially Increase Program Costs and Cause a Fielding Break	27
Its Second-Source	It Is Unclear Whether the Army's Plan Will Reduce Costs	28
Plan Will Reduce	Conclusions	31
Program Costs	Recommendation	31
	Agency Comments and Our Evaluation	31
Appendixes	Appendix I: Comments From the Department of Defense	34
	Appendix II: Major Contributors to This Report	37
Table	Table 3.1: Projected FMTV Production by Two Contractors in Years of Competition	30
Figure	Figure 2.1: Defects Found During the First Acceptance Inspection of FMTV Truck Lots Accepted in April and May 1998	21

Abbreviations

FMTV Family of Medium Tactical Vehicles

Introduction

The Army is procuring medium tactical trucks—the 2.5- and 5-ton payload classes—to replace most of its current fleet. The truck replacement effort is known as the Family of Medium Tactical Vehicles (FMTV) program. The program is currently nearing the end of its first full-production contract. The Army plans to continue production with the same contractor for new model FMTV trucks. In addition, the Army plans to develop a second source to produce FMTV trucks. After the second source is selected, the current contractor and the second source will share annual production.

FMTV Program

The FMTV program is one of the Army's largest acquisition programs at a projected cost of \$15.7 billion. From fiscal year 1991 through fiscal year 2022—a 32-year period—the Army plans to purchase 85,488 FMTV trucks to replace its aging medium truck fleet. The program consists of a family of 2.5- and 5-ton trucks based on a common truck cab and chassis. The 2.5-ton trucks, called light medium tactical vehicles, consist of cargo and van variants and a 2.5-ton trailer. The 5-ton trucks, called medium tactical vehicles, consist of seven variants—cargo, long wheel base cargo, dump, fuel tanker, tractor, van, and wrecker—and a 5-ton trailer.

The program is nearing the end of its first production contract. The contract was awarded on October 11, 1991, to Stewart & Stevenson Services, Inc., Houston, Texas. It was a \$1.2-billion, 5-year, fixed-price production contract for the first 10,843 FMTV trucks. It did not include the production of the 5-ton fuel tanker and van variants or the cargo trailers. These vehicles will be included in later production contracts. Because of funding problems, the fifth year of the contract was extended over 3 years. The Army expects the contractor to complete production under this first contract in December 1998.

Future Acquisition Plans

The Army plans to continue FMTV production with the current contractor. The new contracts will comprise new models, called A1 models, of the FMTV truck variants produced under the original production contract and FMTV trailers. The contract award, however, was delayed until the Army resolved a major problem discovered on fielded FMTV trucks. Under certain operating conditions, the FMTV trucks' transmission flywheel housing can crack and, if undetected, can lead to a broken drive shaft. If the drive shaft breaks while the truck is operating at highway speeds, it can cause an accident. The Army decided not to award the follow-on production contract until this drive train problem was corrected and the correction was verified through testing. The Army successfully completed the testing

of proposed correction to the drive train problem and the Secretary of Defense approved the award of the follow-on production contract in early October 1998.

According to a project official, in order to maintain the planned production schedule while the drive train correction was being tested, the Army initially decided to separate the follow-on contract into two contracts—one that would be awarded immediately to produce new models of FMTV trucks and trailers to support a new production qualification test, and one that would be awarded after the drive train correction was verified for full-rate production of the trucks and trailers. A separate testing contract would allow the contractor to start preliminary work on the new design of the new models without actually starting production until after the drive train problem was corrected. Accordingly on June 2, 1998, the Army awarded Stewart & Stevenson a \$9.2-million contract for 15 FMTV trucks and 8 trailers to support the production qualification test of the new truck models. After the drive train testing was successfully completed, the Army, on October 14, 1998, awarded Stewart & Stevenson a \$1.4-billion, 4-year production contract for 6,430 trucks and trailers, with an option year for an additional 2,920 trucks and trailers.

The 5-ton fuel tanker and van were not included in the follow-on contract. These variants were not produced under the original production contract and the Army planned to include them in the follow-on contract. A project official said that they were not included in the follow-on contract because they were not as ready for production as originally thought. In November 1998, the Army plans to award the Stewart & Stevenson a second FMTV production contract for these FMTV variants. This contract would be for enhancements to the designs of the 2 trucks, testing of the trucks, and production of 276 FMTV trucks—138 5-ton fuel tankers and 138 5-ton vans—at an estimated cost of \$100 million.

While the current contractor is producing under the follow-on contracts, the Army plans to develop a second source to produce FMTV trucks. Starting in fiscal year 2003, the Army plans to split FMTV truck production between the current contractor and a second source by competing production in 5-year increments. The winning contractor for each increment would receive a larger share of production under that increment. The Army plans to award the final 5-year production contract to one contractor in a winner-take-all competition in fiscal year 2018.

Objectives, Scope, and Methodology

Senator Harkin requested that we evaluate the Army's future acquisition plans for the FMTV program.

To evaluate the Army's future FMTV acquisition plans, we interviewed Defense, Army, and contractor officials and reviewed the November 25, 1997, FMTV update to the FMTV acquisition strategy and plan, which provided a general description of the Army's future FMTV plans. However, we had to rely mainly on oral testimony for this evaluation because the Army's detailed plans were evolving at the time of our review and were therefore unavailable in written form. For example, at the start of our review, the Army planned to award one follow-on production contract to the current contractor; now the Army plans to award three follow-on contracts to the current contractor. Because the follow-on production contracts were being negotiated at the time of our review, we were unable to obtain copies of the contracts. Also, the Army had not finalized its detailed second-source plan; therefore, no written detailed second-source plans were available for our review. We interviewed the key project officials involved in developing the Army's follow-on contracts and second-source plans. We evaluated planned production quantities contained in the FMTV selected acquisition report, dated December 31, 1997, to determine whether it would be reasonable to expect benefits from splitting these quantities between two contractors.

As part of our evaluation of future FMTV acquisition plans, we evaluated the Army's efforts under the current FMTV production contract. We interviewed Defense, Army, and contractor officials and reviewed various program documents, including the FMTV acquisition strategy and plan, the current production contract, source selection evaluations, budget documents, and selected acquisition reports. We determined whether the contractor was consistently producing trucks within the quality standards set by the Army for FMTV trucks by analyzing the first inspection acceptance rate of lots accepted by the government between July 1, 1997, and June 30, 1998, and charted the number and type of defects found in the first inspection of lots accepted in 2 recent months. We did not include lots of five trucks or less in this analysis.

We did not visit units that received FMTV trucks because the Defense Office of Inspector General was planning to evaluate FMTV trucks in the field; the Inspector General's audit was started but has been suspended because of higher priority congressional request work. To provide an indication of the kinds of problems identified on fielded FMTV trucks, we reviewed selected weekly reports of deficiencies detected during the FMTV trucks' receiving

inspections at the fielding locations and a summary of quality deficiency reports received by the FMTV project manager's office as of December 11, 1997. When an FMTV truck is received in the field, it is inspected before it is issued to the unit. The Army does not summarize the results of these inspections. At the time of our visit, we selected and reviewed the most recent receiving inspection reports. The reports covered 45 trucks inspected at Fort Bragg, North Carolina, during 4 weeks in July-August 1997. Because the reports did not differentiate between major and minor deficiencies, a government plant representative office quality specialist reviewed the reports and indicated which deficiencies were major deficiencies. The results of our review cannot be projected to all fielded FMTV trucks because we were unable to define the universe of reports. The official who had the reports said that he did not have all of them.

Once the trucks are issued to the units, individual soldiers are supposed to complete a quality deficiency report whenever a problem is found in their trucks. We reviewed a summary of 286 quality deficiency reports received by the project office by December 11, 1997. However, a project official said that he does not believe that all the deficiencies on the FMTV trucks are being reported. Each report would have to be investigated to determine whether similar deficiencies were being reported differently and the root cause of each deficiency. Such a determination was beyond the scope of our review.

Our work was conducted at Defense and Army headquarters, Washington, D.C.; Defense Contract Management Command headquarters, Fort Belvoir, Virginia; FMTV project office, U.S. Army Tank-Automotive and Armaments Command, Warren, Michigan; Defense Contract Management Command, Stewart & Stevenson office, Sealy, Texas; and Tactical Vehicle Systems, Stewart & Stevenson Service, Inc., Sealy, Texas.

We conducted our review between July 1997 and August 1998 in accordance with generally accepted government auditing standards.

FMTV Program Needs Safeguards to Preclude Past Problems

The current contract allowed the contractor to continue truck production even though the trucks were unable to pass testing and demonstrate that they met FMTV performance and reliability, availability, and maintainability requirements. Also, the Army relaxed its final acceptance inspection method from 100-percent inspections to a sampling inspection method without validating that the contractor's production processes were under statistical process control—a method of determining whether a contractor is consistently producing a product within the product's quality standards. Recent government inspection data indicates that the contractor is still not consistently producing trucks within the quality standards set for FMTV trucks.

The Army does not know whether fielded FMTV trucks are performing adequately. It reports that FMTV trucks are doing well in the field but does not have data to support this assessment. FMTV trucks with major deficiencies have been received in the field, but data does not currently exist to determine the range and magnitude of these deficiencies.

According to Army officials, the follow-on contract will allow production to start before the new model trucks pass testing. Also, the Army plans to continue to accept new models under the relaxed final acceptance inspection method.

Contract Allowed Production to Continue After the Trucks Failed Testing

The contractor took longer than expected to produce FMTV trucks that could pass production qualification test and operational test and demonstrate that they met FMTV performance and reliability, availability, and maintainability requirements. While this situation persisted, the contract allowed the contractor to continue producing trucks that did not meet requirements. These trucks required modifications to achieve satisfactory performance. The modification effort caused program delays because new production had to be stopped while the modifications were being made.

Trucks Took Longer Than Expected to Pass Tests

The current contractor was not an experienced truck producer when the Army awarded it the FMTV production contract. The Army selected Stewart & Stevenson because the truck design it submitted was evaluated as the best design and its proposed price was the lowest. However, Stewart & Stevenson had not developed the FMTV truck design. It had subcontracted with an Austrian truck manufacturer, Steyr-Daimler-Puch, AG., to design and develop the FMTV prototypes based on a design of a truck Steyr had

produced for the Austrian army. During the prototype demonstration phase, Steyr also provided support that led to the selection of Stewart & Stevenson. Stewart & Stevenson did not continue its relationship with Steyr into the production phase of the FMTV program. It purchased a plant from a manufacturer of oil-drilling equipment, configured the plant to develop the FMTV production line, and established its Tactical Vehicle Systems Division to produce the FMTV trucks.

The contractor experienced problems in developing its production line and producing trucks that met FMTV technical and operational requirements. The contract required the Army to conduct a production qualification test and an initial operational test and evaluation to determine whether the trucks met these requirements. The production qualification test was designed to determine whether the FMTV truck variants fulfilled the Army's technical performance and reliability, availability, and maintainability requirements and met contract specifications. The initial operational test and evaluation was designed to determine whether and to what degree the FMTV truck variants could accomplish their missions when operated and maintained by soldiers in the expected operational environment.

The Army began the production qualification test in June 1993 and completed it in December 1994. The trucks failed the test because they were unable to meet reliability and some performance requirements. The Army identified over 90 problems that the contractor was required to correct.

The Army began the operational test in October 1993 but suspended it in December 1993 because the trucks were not able to meet their operational reliability, availability, and maintainability requirements. The Army began a series of limited user tests in June 1994. These were unscheduled tests that used operational test personnel and were designed to help the contractor identify potential solutions to the trucks' continuing problems. In August 1994, the Army started a second operational test with those FMTV truck variants it thought had a chance of meeting operational requirements. It continued the limited user tests with the other variants. In September 1994, operational and limited user tests were suspended because test personnel were deployed on a peacekeeping mission in Haiti. According to Army test assessment officials, the trucks were not meeting reliability requirements at the time the operational test was suspended.

In February 1995, the Army started a second production qualification test with improved and newly produced trucks that incorporated changes to address problems identified during earlier testing. In April 1995, the Army started a new operational test with new trucks that also incorporated the changes. It completed both tests in June 1995. The trucks were assessed as having met FMTV requirements in both tests.

**Army Did Not Limit
Production Before Testing
Was Completed**

The Army did not attempt to limit the number of trucks produced before production qualification and operational testing was completed. We have reported on the danger of entering production before adequate operational testing has been completed many times in the past.¹ Beginning production before adequate testing leads to program delays when the already produced systems must be subsequently modified to make them usable. This danger materialized during the current FMTV contract.

The Army could have limited its risk by keeping deliveries to the minimum rate needed to complete testing and prove the production line. However, the contract allowed truck deliveries of up to 150 a month until the trucks passed testing. Later, the Army modified the contract to increase the monthly delivery limit to 200 trucks. According to a project official, the Army believed that increasing monthly delivery quantities would allow the contractor to catch up on its scheduled deliveries.

Because the higher monthly delivery limit actually exceeded the contractor's production capability at that time, the contractor produced as many trucks as it could. However, the trucks it produced still could not meet FMTV technical and operational requirements. By the time the production qualification and operational tests were successfully completed in June 1995, the contractor had produced about 3,000 deficient trucks. The contractor had to perform varying levels of work to make the trucks conform to the specifications of those that had passed testing. About 1,474 trucks had to be disassembled to their frames and remanufactured. This additional work on the already produced trucks had a negative effect on the production of new trucks during the 9 months it took the contractor to make the changes to the 3,000 trucks. The contractor had to stop new truck production for 5 months and was able to produce only 175 new trucks in the remaining 4 months. The contract required the contractor to pay for the changes needed to make the trucks meet FMTV requirements.

¹Weapons Acquisition: Better Use of Limited DOD Acquisition Funding Would Reduce Costs (GAO/NSIAD-97-23, Feb. 13, 1997) and Weapons Acquisition: Low-Rate Initial Production Used to Buy Weapon Systems Prematurely (GAO/NSIAD-95-18, Nov. 21, 1994).

Army Relaxed Inspections Despite Poor Acceptance Rates

After the FMTV trucks passed the production qualification and operational tests, the contractor was still unable to consistently produce trucks that met FMTV program quality standards necessary to pass the government's final acceptance inspection. Despite this problem, the Army relaxed its final acceptance inspection method from 100-percent inspections to a sample inspection method and generally accepted the trucks after the contractor made two attempts to remedy defects. The Army did this without meeting the administrative precondition that the contractor demonstrate that its production processes were in statistical process control. The overall effect was to make it easier for FMTV trucks to pass final acceptance inspection.

Initially, the government's plant representative at the FMTV production plant inspected each FMTV truck to determine whether it met the Army's quality standards. This 100-percent final acceptance inspection is standard procedure when a contractor produces a new product. Each lot that the contractor presented for final acceptance inspection usually consisted of 50 trucks. If one defect was found, the lot was not accepted, and the trucks were returned to the contractor for inspection and correction of the defects. The lot was reinspected until no defects were found by government inspectors.

The plant representative office's quality letter of instruction required the 100-percent final acceptance inspection to continue until the contractor demonstrated that its production processes were under statistical process control. Statistical process control is a standard commercial practice established by monitoring the production processes to see if they consistently result in output within the quality standards set for the overall product. Once a process is producing consistently high-quality output, the process is considered to be under statistical control.² Once all processes are under statistical process control, the quality letter allows the government to perform the final acceptance inspections on a sampling basis.

On April 19, 1996, the project office instructed the plant representative office to change its FMTV final acceptance inspection to a sampling method. The FMTV quality assurance representative who issued this instruction said that the change was made because the summary data provided by the contractor at monthly management meetings was improving—the

²Best Practices: Successful Application to Weapon Acquisitions Requires Changes in DOD's Environment (GAO/NSIAD-98-56, Feb. 24, 1998).

contractor was finding more defects in its final inspection than the government.

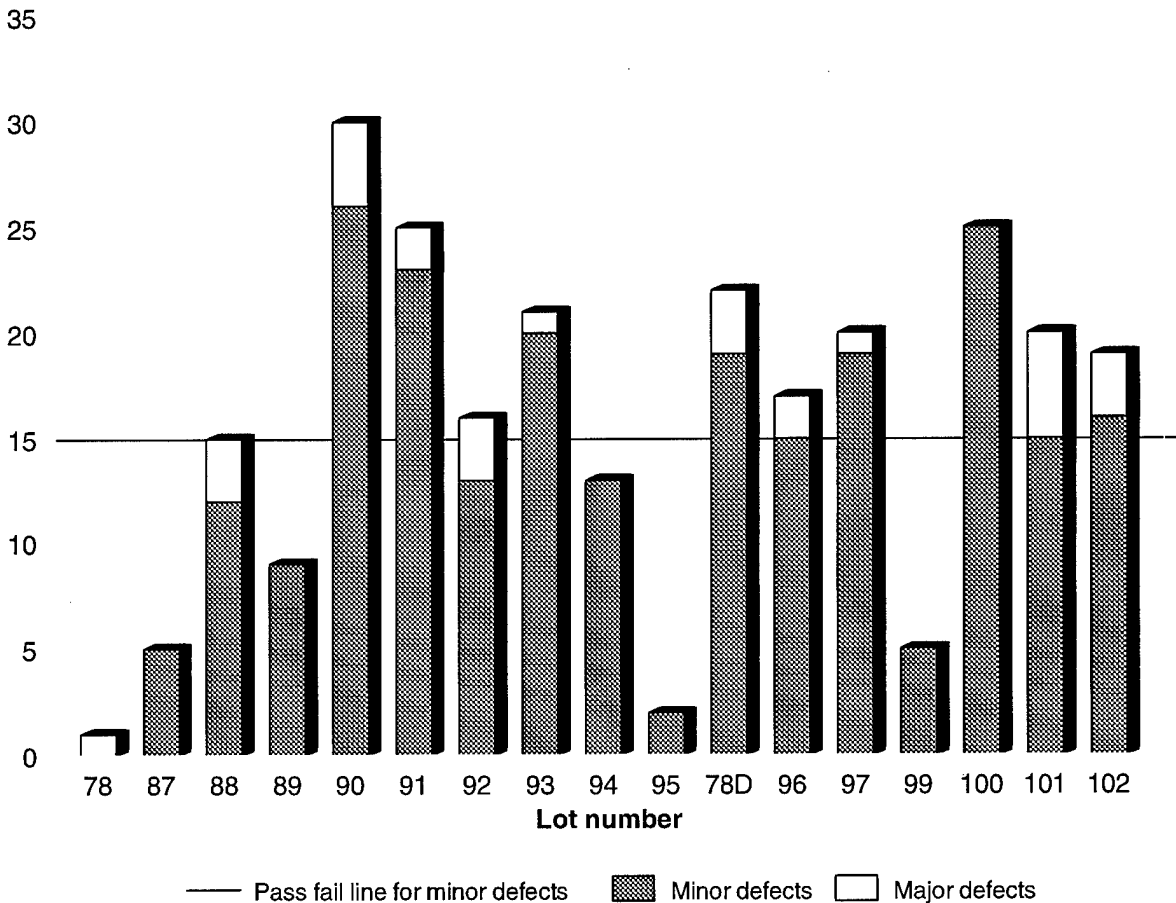
Under the new inspection method, a sample of 5 trucks from each lot of 50 trucks is inspected. If 1 major defect or 15 minor defects are found, the entire lot is returned to the contractor, which is required to inspect the entire lot and correct the defects. The lot is returned to the government, which draws another five-truck sample. The second time, however, the government inspects only for the defects found in the first sample. If the government again finds 1 major defect or 15 minor defects, the lot is rejected and returned to the contractor, which again inspects and corrects the defects. The government generally does not make a third final acceptance inspection. When the contractor provides documentation showing that it has inspected the lot and corrected the defects, the government accepts the lot. A Defense plant representative official said that they have the option to inspect a lot more than two times but does so only in exceptional circumstances, such as when a lot has had many major defects.

We could find no evidence that the program office or the plant representative office had shown that the contractor's processes were under statistical process control at the time of the final acceptance inspection change. A government plant representative official said that the contractor had a 1-percent acceptance rate—1 percent of the trucks submitted to the government were acceptable—when the change was made.

Recent government inspection data indicates that the contractor's production processes are still not under statistical process control and not consistently producing trucks within the quality standards set for FMTV trucks. Between July 1, 1997, and June 30, 1998, about 78 percent of the truck lots presented to the government for final acceptance inspection were rejected on the first inspection. As can be seen in figure 2.1, the number of major and minor defects found during the first inspection can vary greatly by lot, even in lots that were accepted in April and May 1998. For example, the inspectors (1) found no major and 5 minor defects in lot 99, and the lot was accepted on the first inspection; (2) found no major and 25 minor defects in lot 100, and the lot was rejected because the inspectors found 15 or more minor defects; and (3) found 5 major and 15 minor defects in lot 101, and the lot was rejected for both the major and minor defects.

Figure 2.1: Defects Found During the First Acceptance Inspection of FMTV Truck Lots Accepted in April and May 1998

Defects in sample



Army Does Not Know the Overall Quality of Fielded FMTV Trucks

The Army does not know whether fielded FMTV trucks are performing adequately. Army officials report that the FMTV trucks are doing well in the field, but the Army does not have adequate data to support this assessment. FMTV trucks with major deficiencies have been received in the field, but without more complete data, we cannot determine the magnitude of the problem.

According to Army officials, FMTV trucks are doing well in the field. They base this assessment on (1) individual soldiers' statements that they are

pleased with the trucks and (2) truck performance during comparison tests. Neither of these is a good measure of the FMTV truck's field performance. Testimonial evidence from individual soldiers is not a reliable way to determine how a new system is performing. The soldiers' positive statements about the trucks could be explained by the fact that the FMTV trucks have a modern design compared to the trucks they are replacing. The comparison test is designed to check on whether the production trucks still meet the FMTV reliability, availability, and maintainability requirements. Periodically, the Army randomly selects two trucks from the production line to run a 10,000-mile reliability, availability, and maintainability test. The test is not designed to provide a measure of field performance.

The Army could better support its claims if it collected data on fielded truck performance using its sample data collection. Sample data collection is a method of selectively sampling field units to collect field maintenance and performance information on selected equipment. However, the Army is not currently collecting this data on FMTV trucks because the project office would have to fund the data collection effort. A project official said that the funds for the FMTV program should not be diverted for data collection because they are limited and are needed to produce additional trucks.

The U.S. Army Cost and Economic Analysis Center is collecting data on fielded FMTV truck maintenance through its Operating and Support Management Information System. This system reports operating and support costs, parts usage, and maintenance hours by system and is used to project future operating and support costs for budgeting and other planning purposes. However, the Center has not included FMTV trucks in its database because the trucks were only fielded in 1996. A Center official said that he expects to see some, but not much, data on FMTV trucks by the end of September 1998, when the database is updated.

During our review, we found indications that the Army has received trucks in the field with major deficiencies. When an FMTV truck is received in the field, it is inspected before it is issued to the unit. The Army does not summarize the results of these inspections. To determine whether the receiving inspectors were finding problems that could have been found during the final acceptance inspection, we reviewed the most recent receiving inspection reports as of the date of our visit. The reports covered 45 trucks inspected at Fort Bragg, North Carolina, during 4 weeks in July-August 1997. Because the reports did not differentiate between major

and minor deficiencies, a government plant representative office quality specialist reviewed the reports and indicated which deficiencies were major deficiencies. The receiving inspectors found deficiencies on every truck, although not every truck had a major deficiency. They found major fluid leaks, missing parts, inoperative lights and gauges, and reversed winch controls.

In addition, once the trucks are issued to the units, individual soldiers are supposed to complete a quality deficiency report whenever a problem is found in their truck. As of December 11, 1997, the project office had received 286 quality deficiency reports. The Army had fielded about 4,500 FMTV trucks by that date. A project official said he does not believe that all deficiencies have been reported. Some deficiencies were reported more than once, and some of these were later found to be systemic deficiencies. For example, a broken drive shaft was reported on only two trucks; however, the Army has determined that all FMTV trucks have the potential for developing this problem. Examples of the deficiencies reported include starters failing, windows shattering when doors are closed, major fluid leaks, brakes failing, cab lift mechanisms failing, and alternators overheating.

The contractor warrants FMTV trucks to be free from defects in materials and workmanship for 18 months or 12,000 miles, whichever occurs first, from the date the government finally accepts the trucks. Under this warranty, the contractor pays for the correction of all deficiencies discovered during the receiving inspection except those that happen in transit. It also pays for the correction of all deficiencies reported on quality deficiency reports except those caused by misuse, inadequate maintenance, or accident. The contractor's liability under the warranty is limited to \$18 million.

Plans for Follow-on Production Would Continue Past Policies

Under the follow-on contracts, the contractor will be producing new model trucks called A1 models. The trucks will be considered new models because they will have new engines that meet the current Environmental Protection Agency standards, new data bus systems—the wiring and other components through which data is transmitted—to enhance maintainability, antilock braking systems to improve braking, and galvanized steel cabs and other changes to improve corrosion protection. These new trucks will have to pass a new production qualification test consisting of a reliability, availability, and maintainability test of

20,000 miles per test truck and performance tests to demonstrate that the new trucks meet FMTV technical requirements.

According to Army officials, the follow-on contracts will allow full-rate production to start before the new model trucks pass the production qualification tests. Also, the Army plans to continue the practice of accepting the new models under its relaxed final acceptance inspection methods.

Conclusions

Because the FMTV program experienced significant problems under the current production contract, the Army needs to implement safeguards to ensure that the government receives trucks that meet FMTV program quality standards under the follow-on production contracts. The current contract allowed the contractor to continue producing trucks during testing even though the trucks were unable to pass the tests and demonstrate that they met FMTV performance and reliability, availability, and maintainability requirements. These trucks required modifications to achieve satisfactory performance, and the modification effort caused program delays. In addition, the Army relaxed its final acceptance inspection methods from 100-percent inspections to a sampling inspection method without validating the contractor's production processes. Recent government inspection data indicates that the contractor's production processes are still not consistently producing trucks within the quality standards set for FMTV trucks.

The Army does not know whether fielded FMTV trucks have quality problems. It reports that the trucks are doing well in the field, but it does not collect data needed to support this assessment. There is evidence that trucks with major deficiencies have been received in the field, but without more complete data, we cannot determine the magnitude of the problem.

According to Army officials, the follow-on production contracts will allow the start of full-rate production before the new model trucks pass testing. The Army also plans to continue using the relaxed final acceptance inspection procedures to accept the new model trucks. This approach is the same as the one followed during the current production contract, which resulted in program delays and uncertainty over the quality of the fielded trucks. The Army has an opportunity to mitigate future program difficulties by instituting safeguards to ensure that the new model trucks pass testing before production and that the contractor consistently

produces trucks that can meet FMTV technical and operational requirements.

Recommendations

To improve management of the FMTV program under the current and follow-on contracts, we recommend that the Secretary of Defense direct the Secretary of the Army to fund a data collection effort to determine whether fielded FMTV trucks are performing satisfactorily and to direct government inspectors at the FMTV truck plant to return to 100-percent final acceptance inspection of FMTV trucks until the contractor demonstrates its production processes are under statistical process control.

To provide a safeguard on the follow-on contracts that could preclude the type of problems that occurred under the current contract, we recommend that the Secretary of Defense direct the Secretary of the Army to include a clause in the follow-on production contracts that would delay the start of production until the new FMTV model trucks demonstrate that they meet FMTV performance and reliability, availability, and maintainability requirements.

Agency Comments and Our Evaluation

In commenting on a draft of this report, the Department of Defense said it partially concurred with our recommendations. It stated that the Army is currently using, to the maximum extent possible, data from existing databases such as the Operating and Support Management Information System and the FMTV weekly fielding site reports and is considering sample data collection as a fleet management tool if it is determined to be cost-effective. Regarding the final acceptance inspection, the Department said that correcting quality problems along the production line is more cost-effective than rejecting lots after they have been presented for acceptance. According to the Department, the current sampling program is catching discrepancies, demonstrating that sampling is working and therefore 100-percent inspection is not warranted. The Department also said that the Army will not authorize production on the follow-on contracts until it is satisfied that the vehicles will successfully pass production qualification testing. Additionally, the Department believes that it has the proper safeguards in place to preclude the problems experienced in the current contract and therefore does not believe that it is necessary to include a specific requirement in the follow-on contracts to delay the start of production until the trucks demonstrate they meet requirements.

As we point out in this report, the FMTV weekly fielding site reports and existing databases, such as the Operating and Support Management Information System, at this time do not contain enough information for the program office to determine whether the fielded trucks are performing satisfactorily. The FMTV weekly fielding site reports would not be useful in determining whether the fielded FMTV trucks are performing satisfactorily because the site receiving inspections on which the reports are based are performed before the trucks are issued to the units; that is, before they can perform in the field. In this report, we used the data from the fielding site reports to only obtain an indication of whether the trucks were being received with major defects. Also, the Operating and Support Management Information System does not include data on FMTV trucks. While an Army official responsible for the information system said that some FMTV truck data will be included in the database when it is updated this year, he did not expect the FMTV data to be extensive. We therefore continue to believe that the Army needs to conduct sample data collection on the fielded FMTV trucks to make an adequate assessment of the trucks' field performance.

We agree that building quality into the production process is more effective than inspecting it in at the end of production. However, as we stated in our report, the sampling program is identifying significant numbers of discrepancies at the end of the process. This indicates that the contractor's production processes are not building quality into the product. Sampling cannot be relied on until it has been established that the production processes are under statistical process control. Therefore, we believe that until production processes need to be brought under this control to ensure consistently high-quality output, before reducing the 100-percent inspection prescribed by the project office.

In its comments, the Department said it has proper safeguards to preclude the problems experienced in the current contract, but did not indicate what specific factors it will consider in its decision to authorize full-rate production. Under the follow-on contracts, the contractor will be producing FMTV trucks that will be significantly different from the original trucks. The Army awarded the first follow-on contract on October 14, 1998. We have not had an opportunity to review the contract. However, we believe the Army's interests would be better protected if the production contract contained a specific requirement that full-rate production under the follow-on contracts would not start until the FMTV trucks pass production qualification testing under the testing contract.

Army Has Not Determined Whether Its Second-Source Plan Will Reduce Program Costs

The Army plans to compete future procurement of the FMTV trucks with the expectation that program costs can be reduced. Therefore, it has decided to develop a second source for the FMTV trucks. However, it has not performed an analysis to determine the costs and benefits of its plan or compared its plan with other alternatives, including (1) dividing the program into 5-year production increments and competing each increment among all qualified contractors, (2) delaying the development of the second source until funds are available to support both the current contractor and the second source without a fielding break, or (3) continuing with the current contractor for the remainder of the program. Our preliminary analysis of the production quantities that the contractors could expect to share from the competition indicates that the Army's plan will not result in program cost savings.

Army's Plans Call for Developing a Second Source for FMTV Trucks

The FMTV acquisition plans call for the Army to develop a second source for the FMTV truck program. To develop the second source, the Army plans to award production qualification contracts to at least two contractors in fiscal year 1998. The contractors, using the existing FMTV performance specifications and technical data package as a reference, will produce two or three vehicles and compete them against each other. In fiscal year 2000, the Army plans to award the winning contractor a 3-year production contract for up to 800 trucks. Under this contract, the second-source contractor will produce the same models and variants of the trucks that the current contractor will be producing under the follow-on production contract. Starting in fiscal year 2003, the Army plans to compete subsequent FMTV production in 5-year increments. For each increment, the current contractor and the second-source contractor will compete to determine which contractor will receive the larger share of production. The Army has not determined the actual production split for the increments. It plans to award the final 5-year contract to one contractor.

Army's Plans Will Initially Increase Program Costs and Cause a Fielding Break

Project officials said that developing a second source will initially result in higher program costs. It will increase costs because the Army will have to pay the costs incurred by the competing contractors to develop their versions of FMTV trucks and compete them. Additionally, the Army will have to pay the second-source contractor's costs for developing its production line and bringing it into full production. Project officials did not provide an estimate of the cost to develop the FMTV second source.

In its fiscal year 1999 budget request, the Army reduced the planned quantities the current contractor was to produce during the first 7 months of the follow-on contract from 422 trucks to 171 trucks—mainly 5-ton trucks—and 8 trailers. The Army recognized the cost impact of the lower quantities when it increased by 74 percent—from \$142,774 to \$251,101—the estimated average cost of a 5-ton truck. Although the fiscal year 1999 budget request reflected a reduced buy of 5-ton vehicles, procurement costs for these vehicles increased by \$17.2 million. Additionally, the change in procurement quantities allowed the Army to reallocate part of its total fiscal year 1999 program procurement request to begin the second-source effort. This is another cost associated with developing the second source.

In addition, the low production quantities during the first 7 months of the follow-on contract will cause production and fielding breaks. Project officials said that the FMTV second-source plan precluded fielding breaks, as the current contractor would continue to produce trucks while the second source is being developed. However, the Army is planning a 3-month production break between the end of the current contract in December 1998 and the start of production under the follow-on contract in April 1999. A project official said that a 3-month production break will cause a 3-month fielding break. The production break will be caused by the low number of trucks the Army funded for the first 7 months of the follow-on production contract. Subsequent to the fiscal year 1999 budget request, the Army decided to split the follow-on contract into separate testing and production contracts. This split will further reduce the production quantities for the first 7 months of the follow-on contract to 156 trucks.

It Is Unclear Whether the Army's Plan Will Reduce Costs

The Army did not compare the cost and benefits of its plan with those of other program alternatives, including (1) dividing the program into 5-year production increments and competing each increment among all qualified contractors, (2) delaying the development of the second source until funds are available to support both the current contractor and the second source without a fielding break, or (3) continuing with the current contractor for the remainder of the program.

A Stewart & Stevenson official said that under the current contract, the contractor is producing 375 to 400 FMTV trucks a month. He added that the contractor's economical production rate is 400 trucks a month; at that rate

the contractor can avoid a price increase on the trucks.¹ If the Army reduces the monthly production rate, truck prices will increase and therefore program costs will increase. The same contractor official said that the contractor's minimum sustaining rate² is 160 trucks a month and that if the production quantities drop to that number, the Army could expect a price increase close to 10 percent. The Army's fiscal year 1999 budget request for the FMTV program shows the contractor's economical production rate as 350 trucks a month and the minimum sustaining rate as 150 trucks a month. However, a project official said that the budget rates were developed when the contract was awarded and that the contractor's rates were reasonable and more current.

We analyzed a potential 60-40 percent production quantity split under the Army's plan and compared the monthly production quantities each contractor would receive to the current contractor's production rates. Our preliminary analysis indicates that the current contractor will not be able to reduce its costs even if it wins the larger share of the production quantities because the larger share will be at or near its minimum sustaining rate. Although the Army has not determined how it will divide production between the two contractors, we based our analysis of the potential split of FMTV production on a 60-40 percent ratio because the Army has used this ratio for planning purposes.

Table 3.1 shows the total projected annual and monthly production quantities for the FMTV program and the annual and monthly quantities for each contractor based on a 60-40 percent ratio.

¹The economical production rate is the number of units that a contractor can economically produce using one 8-hour shift a day 5 days a week.

²The minimum sustaining rate is the quantity that will allow the contractor to avoid a production break while maintaining a responsive vendor and supplier base.

Chapter 3
Army Has Not Determined Whether Its
Second-Source Plan Will Reduce Program
Costs

Table 3.1: Projected FMTV Production by Two Contractors in Years of Competition

Fiscal year	Total production quantity		60-percent production quantity		40-percent production quantity	
	Yearly	Monthly	Yearly	Monthly	Yearly	Monthly
2003	4,010	334	2,406	201	1,604	134
2004	3,194	266	1,916	160	1,278	106
2005	3,194	266	1,916	160	1,278	106
2006	3,193	266	1,916	160	1,277	106
2007	3,193	266	1,916	160	1,277	106
2008	3,191	266	1,915	160	1,276	106
2009	3,191	266	1,915	160	1,276	106
2010	3,191	266	1,915	160	1,276	106
2011	3,191	266	1,915	160	1,276	106
2012	3,191	266	1,915	160	1,276	106
2013	3,191	266	1,915	160	1,276	106
2014	3,191	266	1,915	160	1,276	106
2015	3,191	266	1,915	160	1,276	106
2016	3,189	266	1,913	160	1,276	106
2017	3,191	266	1,915	160	1,276	106
2018	3,020	252	a			
2019	3,021	252	a			
2020	3,020	252	a			
2021	3,020	252	a			
2022	3,095	258	a			

^aThe Army plans to award the final 5-year contract to one contractor.

Source: FMTV Selected Acquisition Report, December 31, 1997.

Table 3.1 shows that if two contractors compete for planned production quantities based on a 60-40 percent ratio, the current contractor would produce, in most years, at or near its monthly minimum sustaining rate of 160 trucks even if it won the larger share of production in all years. It will be difficult for the current contractor to reduce its price to the Army at these quantities because its FMTV production plant is dedicated solely to FMTV production and was built to produce up to a maximum of 525 trucks per month based on an 8-hour work shift, 5 days a week. When Stewart & Stevenson won the first production contract, the Army's acquisition plan did not contain plans for developing a second source. Stewart & Stevenson's fixed costs at its FMTV production plant must be covered by its FMTV contracts and therefore the fixed costs limit the amount of price

reduction the contractor can give to the Army. According to a Stewart & Stevenson official, a monthly rate of 160 trucks would cause about a 10-percent increase in the price of the trucks, not a price reduction.

We were unable to estimate the effect the production split would have on the prices the second-source contractor would give the Army. The second-source contractor may be able to optimize its FMTV truck production at lower rates than the current contractor. There are several possible scenarios. For example, if the second-source contractor is a truck producer, and if it could add FMTV truck production to a plant in which it produces other trucks, it could share the plant's fixed costs with other contracts. This would tend to reduce the fixed costs attributed to the FMTV contracts and lower the second-source contractor's minimum sustaining rate, allowing it to lower the FMTV price.

Conclusions

To reduce costs, the Army plans to introduce competition into the FMTV program by developing a second source to produce FMTV trucks. The current contractor and second source will share the annual production. It is not clear whether the Army's plan to split production of FMTV trucks between two contractors will result in cost savings. The Army has not performed a cost and benefit analysis to justify its plan. A cost and benefit analysis could determine whether, for example, the financial benefits of adding a second source would offset the investment of bringing a second contractor into full production and could compare the costs and benefits of the Army's plan with other alternatives.

Recommendation

To ensure that the Army considers all its options before it starts to develop a second source for the FMTV, we recommend that the Secretary of Defense direct the Secretary of the Army to delay the Army's plans for developing a second source to produce FMTV trucks until the Army completes an analysis that compares the costs and benefits of its plans with those of other alternatives and to pursue the alternative that is most beneficial to the government.

Agency Comments and Our Evaluation

In commenting on a draft of this report, the Department of Defense partially concurred with our recommendation. It said that the Army is conducting an FMTV second-source contractor cost and benefit analysis as directed by the Congress. The fiscal year 1999 Defense Authorization Act³

³P.L. 105-261 sec. 112, Oct. 17, 1998.

required the Secretary of the Army to conduct a cost and benefit analysis prior to contracting with a second source for FMTV trucks. The analysis is to support certifications by the Secretary of the Army that (1) total FMTV quantities will be sufficient to enable the prime contractor to maintain a minimum economic production level; (2) total costs of the procurements under the second-source plan will be the same or lower than if the Army proceeds with only one contract; and (3) vehicles produced by both contractors will have common, interchangeable components.

The Army's plan to conduct an FMTV cost and benefit analysis is a step in the right direction; however, according to an Army official, the Army's analysis will compare the costs and benefits of only two acquisition approaches—the current FMTV second-source plan and continuing with the current contractor for the remainder of the program. Since other alternative acquisition approaches for the program exist, we believe that, as a minimum, the Army should explore the other alternatives. The Army should select the acquisition alternative that is the most cost beneficial to the government to continue the FMTV program.

Comments From the Department of Defense



ACQUISITION AND
TECHNOLOGY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

21 SEP 1998

Mr. Louis J. Rodrigues
Director
Defense Acquisitions Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Rodrigues:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ARMY MEDIUM TRUCKS: Future Acquisition Plans Need Safeguards," dated September 1, 1998 (GAO Code 707286/OSD Case 1685). DoD partially concurs with the GAO recommendations as stated in the attachment.

Sincerely,

George R. Schneiter
Director
Strategic and Tactical Systems

Enclosures



General Accounting Office Draft Report
"ARMY MEDIUM TRUCKS: Future Acquisition
Plans Need Safeguards"
dated September 1, 1998
(GAO Code 707286/OSD Case 1685):

DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that to improve management of the FMTV program under the current and follow-on contracts, the Secretary of Defense direct the Secretary of the Army to fund a data collection effort to determine whether fielded FMTV trucks are performing satisfactorily and direct government inspectors at the FMTV truck plant to return to 100-percent final inspection acceptance until the contractor demonstrates its production processes are under statistical control. (p. 36/Draft Report)

DOD RESPONSE: Partially concur. A data collection effort to determine whether fielded trucks are performing satisfactorily does have the secondary promise of lowering the O&S costs for vehicles in the field. Data from existing databases such as the Operating and Support Management Information System and the FMTV Weekly Fielding Site Reports are currently used to the maximum extent possible. The Army is considering Sample Data Collection as a fleet management tool if it is determined to be cost effective. The Department believes that the key to an effective quality program is building quality into the product during the process of building the vehicle. Correcting quality problems along the production line is more cost effective than to reject vehicle lots after they have been presented to the Government for acceptance. The current sampling program is catching the discrepancies, demonstrating that sampling is working and therefore 100% inspection is not warranted.

RECOMMENDATION 2: The GAO recommended that to provide a safeguard on the follow-on contracts that could preclude the type of problems that occurred under the current contract, the Secretary of Defense direct the Secretary of the Army to include a clause in follow-on production contracts that would delay the start of production until the new FMTV model trucks demonstrate that they meet performance and reliability, availability, and maintainability requirements. (p. 37/Draft Report)

DOD RESPONSE: Partially concur. The FMTV trucks must undergo a vigorous series of tests prior to contract award and prior to any production decisions. As you know, the vehicles have a drive train flaw. Before awarding the rest of the first production year's vehicles and signing a multiyear procurement contract, the Army must demonstrate to the Secretary of Defense and the Congress that it has fixed the drive train flaw. The exit criteria for this test is 12,000 successful miles of instrument testing. In June 1998, the Army awarded a contract for 15 trucks and 8 trailers. These vehicles will begin

See pp. 25-26.

See p. 26.

Appendix I
Comments From the Department of Defense

Production Qualification Testing (PQT) once the drive train fix is verified. The Army will not authorize actual production until it is satisfied that the vehicles will successfully pass PQT. In addition, the Army will conduct a Retrofit Verification Test of 12,000 miles. This test will verify the fix on vehicles from the existing contract. The Department believes that it has the proper safeguards in place to preclude the problems experienced in the current contract.

RECOMMENDATION 3: To assure that the Army considers all its options before it starts to develop a second source for the FMTV, the GAO recommended that the Secretary of Defense direct the Secretary of the Army to delay the Army's plans for developing a second source to produce FMTV trucks until the Army completes an analysis that compares the cost and benefits of the Army's second source plans with those from other alternatives and to pursue the alternative that is most beneficial for the government. (p. 46-47/Draft Report)

DOD RESPONSE: Partially concur. Per Congressional direction, the Department is conducting an FMTV second source contractor cost and benefit analysis. The Department's Cost and Economic Analysis Center (CEAC) with contractor assistance from Science Applications International Corporation is performing the study. Upon approval of the Army leadership, the report will be forwarded to the Defense Committees.

See pp. 31-32.

Major Contributors to This Report

National Security and
International Affairs
Division, Washington,
D.C.

Robert J. Stolba
Lawrence D. Gaston, Jr.

Kansas City Field
Office

Robert D. Spence

Office of the General
Counsel, Washington,
D.C.

William T. Woods
Margaret L. Armen

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013

or visit:

Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000
or by using fax number (202) 512-6061, or TDD (202) 512-2537.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

<http://www.gao.gov>